Appl. No.: 10/075,075

Amdt. dated: March 4, 2005

Reply to Final Office Action of October 4, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-11 (canceled)

- 12. (presently amended) An isolated protein, wherein said protein is a KChAP potassium channel associated protein or a derivative thereof, wherein said protein comprises an amino acid sequence having at least 85% identity with the amino acid sequence shown in Fig. 2, as set forth in SEQ ID NO: 2 or the amino acid sequence shown in Fig. 3, SEQ ID NO: 4, or the amino acid sequence set forth in SEQ ID NO: 6.
- 13. (previously presented) The isolated protein of claim 12, wherein said protein binds to Kvα subunits Kv2.1, Kv2.2, Kv1.3, and Kv4.3.
- 14. (presently amended) The An isolated protein of claim 12 that binds to Kvα subunits Kv2.1, Kv2.2, Kv1.3, and Kv4.3, wherein said protein comprises an amino acid sequence having at least 95% identity with the amino acid sequence shown set forth in in Fig. 2, SEQ ID NO: 2 or the amino acid sequence shown in Fig. 3, SEQ ID NO: 4, or the amino acid sequence set forth in SEQ ID NO: 6.
- 15. (presently amended) An isolated peptide comprising the Kvα/Kv β binding domain of KChAP a potassium channel associated protein, wherein said peptide comprises the amino acid sequence of SEQ ID. NO:5, SEQ ID NO: 7, or SEQ ID NO:10.
- 16. canceled
- 21. (presently amended) The isolated protein of claim 12 14, wherein said protein comprises a Kvaα/Kvβ binding domain having the amino acid sequence set forth in SEQ ID NO: 5, SEQ ID NO: 7, or SEQ ID NO: 10.

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- 22. (previously presented) The isolated protein of claim 12, wherein said protein binds to $Kv\beta1.2$.
- 23. (presently amended) The isolated protein of claim $\frac{12 \cdot 14}{12}$, wherein said protein binds to $\frac{12 \cdot 14}{12}$, wherein said protein binds to $\frac{12 \cdot 14}{12}$, wherein said protein binds to $\frac{12 \cdot 14}{12}$, wherein said protein binds to $\frac{12 \cdot 14}{12}$, wherein said protein binds to $\frac{12 \cdot 14}{12}$, wherein said protein binds to $\frac{12 \cdot 14}{12}$, wherein said protein binds to $\frac{12 \cdot 14}{12}$, wherein said protein binds to $\frac{12 \cdot 14}{12}$, wherein said protein binds to $\frac{12 \cdot 14}{12}$, wherein said protein binds to $\frac{12 \cdot 14}{12}$, wherein said protein binds to $\frac{12 \cdot 14}{12}$, wherein said protein binds to $\frac{12 \cdot 14}{12}$, wherein said protein binds to $\frac{12 \cdot 14}{12}$, wherein said protein binds to $\frac{12 \cdot 14}{12}$.
- 24. canceled
- 25. (presently amended) The isolated peptide of claim 16 15, wherein said peptide binds to Kvα subunits Kv2.1, Kv2.2, Kv1.3, and Kv4.3.
- 26. (presently amended) The isolated peptide of claim $\frac{16}{15}$, wherein said peptide binds to Kv β 1.2.
- 27. (presently amended) The isolated peptide of claim $\frac{16}{15}$, wherein said peptide binds to Kv α subunits Kv2.1, Kv2.2, Kv1.3, and to the Kv β subunit Kv β 1.2.
- 28. Canceled.
- 29. Canceled
- 30. (new) The isolated protein of claim 12, wherein said protein comprises SEQ ID NO: 2.
- 31. (new) The isolated protein of claim 12, wherein said protein comprises SEQ ID NO: 4.
- 32. (new) The isolated protein of claim 12, wherein said protein comprises SEQ ID NO: 6.
- 33. (new) The isolated protein of claim 14, wherein said protein comprises SEQ ID NO:5.
- 34. (new) The isolated protein of claim 14, wherein said protein comprises SEQ ID NO: 7.
- 35. (new) The isolated protein of claim 14, wherein said protein comprises SEQ ID NO:10.
- 36. (new) The isolated peptide of claim 15, wherein said peptide comprises SEQ ID NO: 5.
- 37. (new) The isolated peptide of claim 15, wherein said peptide comprises SEQ ID NO: 7.
- 38. (new) The isolated peptide of claim 15, wherein said peptide comprises SEQ ID NO: 10.